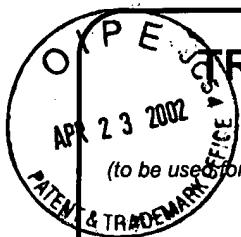


Please type a plus sign (+) inside this box → +

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Total Number of Pages in This Submission

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Application Number

09/623,304

Filing Date

February 21, 2001

First Named Inventor

Silvia, Christopher P.

Group Art Unit

1647

Examiner Name

Bridget E. Bunner

TECH CENTER

1600/2900

Attorney Docket Number

018512-000410US

ENCLOSURES (check all that apply)

 Fee Transmittal Form Assignment Papers
(for an Application) After Allowance Communication to Group Fee Attached Drawing(s) Appeal Communication to Board of Appeals and Interferences Amendment / Response Licensing-related Papers Appeal Communication to Group
(Appeal Notice, Brief, Reply Brief) After Final Petition Routing Slip (PTO/SB/69)
and Accompanying Petition Proprietary Information Affidavits/declaration(s) Petition to Convert to a
Provisional Application Status Letter Extension of Time Request Power of Attorney, Revocation
Change of Correspondence Address Other Enclosure(s)
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37 CFR 1.821-1.825 and Amendment; Information Disclosure Statement Request for RefundSequence Listing Diskette; printed
Sequence Listing pages 1-3; copy of
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Report. Certified Copy of Priority
Document(s) CD, Number of CD(s)Remarks
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Deposit Account 20-1430. Response to Missing Parts/
Incomplete Application Response to Missing
Parts under 37 CFR
1.52 or 1.53

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm
and
Individual name

Townsend and Townsend and Crew LLP

Reg. No. 42,058

Signature

Date

04/18/02

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SF 1337814 v1

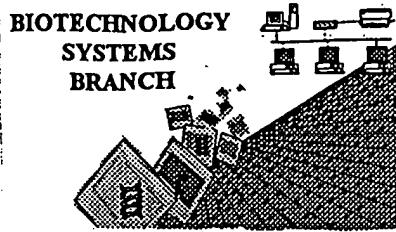
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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

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Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
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1647

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

3 <110> APPLICANT: Silvia, Christopher
 4 Yu, Weifeng
 5 ICAgen, Inc.
 7 <120> TITLE OF INVENTION: Identification and Expression of Human Kir5.1
 9 <130> FILE REFERENCE: 018512-000410US
 11 <140> CURRENT APPLICATION NUMBER: US 09/623,304
 12 <141> CURRENT FILING DATE: 2001-02-21
 14 <150> PRIOR APPLICATION NUMBER: US 60/076,612
 15 <151> PRIOR FILING DATE: 1998-03-03
 17 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/04549
 18 <151> PRIOR FILING DATE: 1999-03-02
 20 <160> NUMBER OF SEQ ID NOS: 4
 22 <170> SOFTWARE: PatentIn Ver. 2.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 383
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Homo sapiens
 29 <220> FEATURE:
 30 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward
 31 rectifier potassium channel
 33 <220> FEATURE:
 34 <221> NAME/KEY: PEPTIDE
 35 <222> LOCATION: (351)..(383) → must give location and explain what residue X represents - See p. 4
 36 <223> OTHER INFORMATION: tail region
 38 <400> SEQUENCE: 1
 39 Met Ser Tyr Tyr Gly Ser Ser Tyr His Ile Ile Asn Ala Asp Ala Lys
 40 1 5 10 15
 41 Tyr Pro Gly Tyr Pro Pro Glu His Ile Ile Ala Glu Lys Arg Arg Ala
 42 20 25 30
 43 Arg Arg Arg Leu Leu His Lys Asp Gly Ser Cys Asn Val Tyr Phe Lys
 44 35 40 45
 45 His Ile Phe Gly Glu Trp Gly Ser Tyr Val Val Asp Ile Phe Thr Thr
 46 50 55 60
 47 Leu Val Asp Thr Lys Trp Arg His Met Phe Val Ile Phe Ser Leu Ser
 48 65 70 75 80
 49 Tyr Ile Leu Ser Trp Leu Ile Phe Gly Ser Val Phe Trp Leu Ile Ala
 50 85 90 95
 51 Phe His His Gly Asp Leu Leu Asn Asp Pro Asp Ile Thr Pro Cys Val
 52 100 105 110
 53 Asp Asn Val His Ser Phe Thr Gly Ala Phe Leu Phe Ser Leu Glu Thr
 54 115 120 125
 55 Gln Thr Thr Ile Gly Tyr Gly Tyr Arg Cys Val Thr Glu Glu Cys Ser
 56 130 135 140

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/623,304
 DATE: 03/07/2002
 TIME: 10:29:16

Input Set : A:\-4-1.app
 Output Set: N:\CRF3\03072002\I623304.raw

57 Val Ala Val Leu Met Val Ile Leu Gln Ser Ile Leu Ser Cys Ile Ile
 58 145 150 155 160
 59 Asn Thr Phe Ile Ile Gly Ala Ala Leu Ala Lys Met Ala Thr Ala Arg
 60 165 170 175
 61 Lys Arg Ala Gln Thr Ile Arg Phe Ser Tyr Phe Ala Leu Ile Gly Met
 62 180 185 190
 63 Arg Asp Gly Lys Leu Cys Leu Met Trp Arg Ile Gly Asp Phe Arg Pro
 64 195 200 205
 65 Asn His Val Val Glu Gly Thr Val Arg Ala Gln Leu Leu Arg Tyr Thr
 66 210 215 220
 67 Glu Asp Ser Glu Gly Arg Met Thr Met Ala Phe Lys Asp Leu Lys Leu
 68 225 230 235 240
 69 Val Asn Asp Gln Ile Ile Leu Val Thr Pro Val Thr Ile Val His Glu
 70 245 250 255
 71 Ile Asp His Glu Ser Pro Leu Tyr Ala Leu Asp Arg Lys Ala Val Ala
 72 260 265 270
 73 Lys Asp Asn Phe Glu Ile Leu Val Thr Phe Ile Tyr Thr Gly Asp Ser
 74 275 280 285
 V--> 75 Thr Gly Thr Ser His Gln Ser Arg Ser Ser Tyr Val Pro Arg Xaa Ile
 76 290 295 300
 77 Leu Trp Gly His Arg Phe Asn Asp Val Leu Glu Val Lys Arg Lys Tyr
 78 305 310 315 320
 79 Tyr Lys Val Asn Cys Leu Gln Phe Glu Gly Ser Val Glu Val Tyr Ala
 80 325 330 335
 81 Pro Phe Cys Ser Ala Lys Gln Leu Asp Trp Lys Asp Gln Gln Leu His
 82 340 345 350
 83 Ile Glu Lys Ala Pro Pro Val Arg Glu Ser Cys Thr Ser Asp Thr Lys
 84 355 360 365
 85 Ala Arg Arg Arg Ser Phe Ser Ala Val Ala Ile Val Ser Ser Trp
 86 370 375 380
 89 <210> SEQ ID NO: 2
 90 <211> LENGTH: 1509
 91 <212> TYPE: DNA
 92 <213> ORGANISM: Homo sapiens
 94 <220> FEATURE:
 95 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward
 96 rectifier potassium channel
 98 <220> FEATURE:
 99 <221> NAME/KEY: unsure
 100 <222> LOCATION: (1279)
 101 <223> OTHER INFORMATION: n = a, g, c or t
 103 <400> SEQUENCE: 2
 104 ttactactac aaaactcacc tggatcccta agggcacagc aaagaatgag ctattacggc 60
 105 agcagctatc atattatcaa tgcggacgca aaatacccgag gctacccgccc agagcacatt 120
 106 atagctgaga agagaagagc aagaagacga ttacttcaca aagatggcag ctgtaatgtc 180
 107 tacttcaagg acatttttgg agaatgggaa agctatgtgg ttgacatctt caccactt 240
 108 gtggacacca agtggcgcca tatgtttgtg atatttctt tatcttatat tctctcggtt 300
 109 ttgatatttg gctctgtctt ttggctcata gccttcatc atggcgatct attaaatgtat 360
 110 ccagacatca caccttgtgt tgacaacgtc cattcttca caggggcctt tttgttctcc 420

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002
 TIME: 10:29:16

Input Set : A:\-4-1.app
 Output Set: N:\CRF3\03072002\I623304.raw

111 ctagagaccc aaaccaccat aggatatgg tatacgctgtg ttactgaaga atgttctgtg 480
 112 gccgtgccta tggtgatcct ccagtccatc ttaaggtgca tcataaaatc cttttatcatt 540
 113 ggagctgcct tggccaaaat ggcactgct cgaaagagag cccaaaccat tcgtttcagc 600
 114 tacatggcac ttataggtat gagagatggg aagcttgc tcatgtggcg cattgggtat 660
 115 ttcggccaa accacgtggt agaaggaaca gttagagccc aacttctccg ctatacagaa 720
 116 gacagtgaag ggaggatgac gatggcattt aaagaccta aattagtcaa cgaccaaatac 780
 117 atcttgtca cccccgttaac tattgtccat gaaattgacc atgagagccc tctgtatgcc 840
 118 cttagccgca aagcagtagc caaaagataac ttttagattt tggtgacatt tatctatact 900
 119 ggtgattcca ctggAACATC tcaccaatct agaagctcct atgttccccc araaattctc 960
 120 tggggccata ggttaatga tgtcttgaa gttaagagga agtattacaa agtgaactgc 1020
 121 ttacagttt aaggaagtgt ggaagtataat gccccctttt gcagtgcac gcaattggac 1080
 122 tggaaagacc agcagctcca catagaaaaaa gcaccaccag ttcgagaatc ctgcacgtcg 1140
 123 gacaccaagg cgagacaaag gtcatttagt gcagttgcca ttgtcagcag ctggtgaaaa 1200
 124 ccctgaggag accaccactt tcgccacaca tgaatataagg gaaacacccat atcagaaagc 1260
 W--> 125 tctccctgac tttaaacang aatcctctgt wgaatccaa atgttagtcc taaaattgca 1320
 126 attatgaggg ctaccactga atcattttat ctttcagcca atcaagtgt tgtaaacgtg 1380
 127 gctttttga aagtgttatg gctatgtttt atgatgatgc tggtaagta gagtaagtt 1440
 128 aacttggtaa aagataatct aaaaattcca tagttctcag ttattaaaat ttttcttg 1500
 129 ccggaaattc 1509

131 <210> SEQ ID NO: 3

132 <211> LENGTH: 24

133 <212> TYPE: DNA

134 <213> ORGANISM: Artificial Sequence

136 <220> FEATURE:

137 <223> OTHER INFORMATION: Description of Artificial Sequence:primer

139 <400> SEQUENCE: 3

140 ccttaaggca cagcaaagaa tgag

24

142 <210> SEQ ID NO: 4

143 <211> LENGTH: 20

144 <212> TYPE: DNA

145 <213> ORGANISM: Artificial Sequence

147 <220> FEATURE:

148 <223> OTHER INFORMATION: Description of Artificial Sequence:primer

150 <400> SEQUENCE: 4

20

151 gtgtggcgaa agtgggtggc

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002
TIME: 10:29:18

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 303
Seq#:2; N Pos. 1279

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002
TIME: 10:29:18

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:288
M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1260

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APR 25 2002

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Application No.
09/623,304
Examiner
Bridget E. Bunner

Applicant(s)
SILVIA ET AL.
Art Unit
1647

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS
CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE
DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- 7. Other:

Applicant Must Provide:

- An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

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